

# Forest Trails and Landings

## Job Sheet

**PURPOSE:** The purpose of this practice is to provide access to forest stands for management, removal and collection of forest products, recreation, and to minimize onsite and offsite damage to resources (including water quality) during periods of access. This job sheet will discuss the placement and management of forest harvest trails and landings. These areas whether planned or existing, include developed trails, skid roads, and log yarding sites. The emphasis here will be the application of Best Management Practices, or BMPs, to these areas to protect water quality, prevent soil erosion, and improve wildlife habitat.



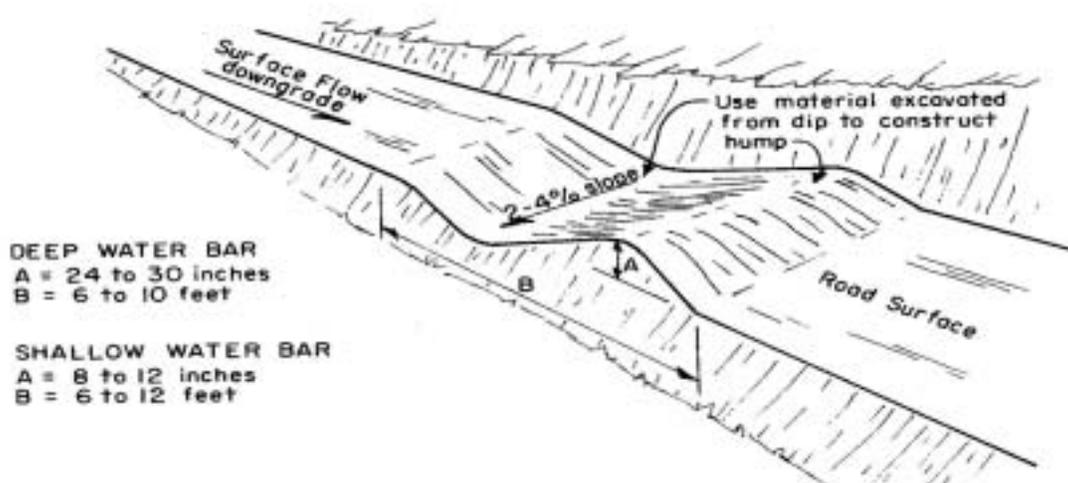
A poorly constructed and maintained forest trail as shown on the left will erode severely. This creates a hazard to vehicles and equipment and results in excess sedimentation to streams in the watershed. The application of appropriate BMPs could have prevented this problem, which will now require the use of heavy equipment to correct.



A simple practice such as installing a turnout or a conveyor-belt waterbar, shown above, could have directed concentrated runoff flow away from the road where it would not cause erosion.

## SPECIFICATIONS:

- When placing roads, keep grades as low as possible. Avoid long, steep grades that exceed 20%.
- Minimize the use of stream crossings and avoid using fords across streams whenever possible.
- On trails with existing erosion problems, install waterbars, rolling dips, and other drainage measures to route runoff away from the road. Crown the roads to help with drainage.
- Adjust spacing of waterbars to decrease the intervals between them on steep ground. Longer intervals are acceptable on relatively flat portions.
- The installation of appropriate drainage structures, with the addition of the autumn leaf fall, will often sufficiently protect roads from erosion if vehicular traffic is controlled. Where these measures are not sufficient, seed areas that are still susceptible to erosion according to the NRCS Critical Area Planting Standard (342).
- Completely close, rehabilitate, and revegetate problem areas.
- Locate landings and yarding areas on well drained ridgetops, areas close to an all-weather road, or sites close to the stand being harvested.
- Landings should have a slight slope to facilitate drainage.
- Do not locate landings within 200 feet of streams, ponds, lakes, sinkholes, springs, caves, or wetlands.
- Clear log yard debris from landing areas, prepare a suitable seedbed, and seed those areas down to a green browse food plot mixture. Avoid the use of tall fescue in any seeding mixture if wildlife habitat is a consideration.



The water bar shown above is the most common BMP used on forest trails.



A well designed and managed forest trail system is non-erosive, aesthetically pleasing, low-maintenance and when vegetated with wildlife friendly grasses and legumes, can provide bugging areas for turkeys and browse for whitetail deer.

**MAINTENANCE:**

- ❑ After rehabilitation, close trails susceptible to damage from vehicular traffic. Construct gates or otherwise block the trail with logs, trees, rootwads, etc. to prevent further use.
- ❑ Maintain vegetation on especially erosive areas.
- ❑ Prevent vehicular traffic when trails are wet and subject to damage if used.
- ❑ Rehabilitate water bars and turnouts if they fail to function due to excess sediment buildup or if scour develops at the outflow point.
- ❑ Maintain green browse planted on log landings and openings through adequate fertilization and replant as necessary.
- ❑ The primary criterion to evaluate the successful implementation and maintenance of this practice is soil erosion. *At any point in time after installation during the life-span of this practice, harvest trails and landings must be in a stable, non-erosive condition.* A combination of structural practices, vegetative practices, natural leaf-fall mulch, and road closure can be used to accomplish this goal.

**PRIMARY HABITAT CONSIDERATIONS:** Prevent erosion on forest trails and landings, and maintain wildlife friendly vegetation on forest openings.

**ADDITIONAL REFERENCES:** Additional design criteria can be located in the following publications:

- *Forest Management for Missouri Landowners.* Missouri Department of Conservation, 2000.
- *Missouri Watershed Protection Practice.* Missouri Department of Conservation, 1997.
- *A Landowner's Guide to Building Forest Access Roads.* USDA Forest Service. 1998.

Consult with NRCS or MDC foresters, wildlife biologists and private land conservationists for additional recommendations. Contact your University Outreach and Extension Center for additional information on wildlife management.

**SITE SPECIFIC COMMENTS AND RECOMMENDATIONS**

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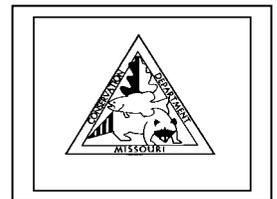
Landowner: \_\_\_\_\_ Tract: \_\_\_\_\_ Farm: \_\_\_\_\_

**CONTACT:**

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Date: \_\_\_\_\_

Photos by Cliff White, Missouri Department of Conservation, 2002

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